

the longest considerably greater than the length of the tarsus. Tarsus long (about twice the length of the exposed culmen), the posterior face, on both sides, "booted." Bill small, much depressed, triangular, the lateral outlines slightly concave; distinctly notched, the rectal bristles strong; length of bill from nostril about equal to its width at base. Tail nearly as long as the wing, slightly rounded. Color olive above, browner on remiges and rectrices, grayer on head, the wing-coverts with two whitish bands; lower parts whitish, tinged with sulphur-yellow, laterally and posteriorly.

Type, *Empidonax nanus* Lawrence.

The type of this genus is exceedingly different in structure from any of the species of *Empidonax*, as shown by the above diagnosis. In general coloration, it resembles some of the species of *Empidonax*, and also some of the Vireones, especially *V. bellii*.

This new form is dedicated to Mr. George N. Lawrence, of New York City, America's veteran ornithologist, as a slight token of esteem, and also in recognition of his important services to Neotropical ornithology.

ON THE AVI-FAUNA OF PINAL COUNTY, WITH REMARKS ON SOME BIRDS OF PIMA AND GILA COUNTIES, ARIZONA.

BY W. E. D. SCOTT.

With annotations by J. A. Allen.

(Continued from page 258.)

II.

1. *Podilymbus podiceps*. PIED-BILLED GREBE.—The only specimens of this species that I am aware of occurring in the region under discussion, were taken by Mr. Herbert Brown of Tucson, near that place on the 18th of February, 1886. They are two in number; one an immature bird and the other almost in full plumage.

2. *Urinator lumme*. RED-THROATED LOON.—A Papago Indian brought into the reservation near Tucson on December 20, 1884, an individual of this species. It was apparently exhausted, and falling in the grass was unable to rise again. It proved to be an immature male, and is now in the collection of Mr. Herbert Brown. This is the only record I am aware of from this immediate vicinity.

3. *Merganser americanus*. AMERICAN MERGANSER.—During a visit to the San Pedro River, January 27 to 29 inclusive, of the present year, I noted this species as rare. One female was taken and three males seen. Mr. Brown has no records from about Tucson, nor have I ever noticed it in the markets of that place.

4. *Lophodytes cucullatus*. HOODED MERGANSER.—An immature female, taken by Mr. Brown near Tucson, on December 5, 1885, is the only record of the species that I know of.

5. *Anas boschas*. MALLARD.—This is one of the commonest Ducks about Tucson, during late fall and winter, leaving early in the spring, Mr. Brown tells me. I found it not uncommon, on the San Pedro on March 1, 1885, and it was one of the most abundant Ducks at the same point, January 27 to 29 of the present year.

6. *Anas strepera*. GADWALL.—The only occurrence of this species that has come under my observation is a female, secured by Mr. Brown, near Tucson, on December 20, 1886, and now in that gentleman's collection.

7. *Anas americana*. BALDPATE.—This species was not uncommon on the San Pedro River, in small flocks, never exceeding six individuals, during a visit to that point from January 27 to 29 inclusive, 1886.

8. *Anas carolinensis*. GREEN-WINGED TEAL.—“Abundant about Tucson at times during the winter; notably so, from about February 5 to 19 of the present year.” (MS. note from Mr. Herbert Brown.) It was apparently rare on the San Pedro during my visits of the past winter.

9. *Anas discors*. BLUE-WINGED TEAL.—“Uncommon about Tucson” (*Herbert Brown*). A few were observed during visits made to the San Pedro River during the past winter.

10. *Anas cyanoptera*. CINNAMON TEAL.—“A common migrant, coming early in the fall and remaining till late in the spring, about Tucson” (*Herbert Brown*). I have not observed it on the San Pedro or on the Gila at Riverside, but have taken it about Tucson as late as April 26, when the birds were still in flocks.

11. *Spatula clypeata*. SHOVELLER.—“Rather common about Tucson in winter” (*Herbert Brown*). Two representatives that I have seen in the markets and in Mr. Brown's collection are in immature plumage, or were beginning, late in February, to assume the breeding plumage.

12. *Dafila acuta*. PINTAIL.—This species I noticed as not uncommon on the San Pedro in early March, 1885.

13. *Aythya americana*. REDHEAD.—“Common about Tucson in winter” (*Herbert Brown*). Very common in flocks of from six to ten individuals on the San Pedro River at a point about ten miles from American Flag, from January 27 to 29 inclusive, 1886.

14. *Aythya vallisneria*. CANVAS BACK.—A small flock of about eight individuals noted on the San Pedro on January 28, 1886, and a female taken. I have no absolute record from about Tucson.

15. *Aythya marila nearctica*. AMERICAN SCAUP DUCK.—Rather common on the San Pedro in winter.

16. *Aythya affinis*. LESSER SCAUP DUCK.—A few seen on the San Pedro during late January of the past winter.

17. *Charitonetta albeola*. BUFFLE-HEAD.—“Uncommon about Tucson in winter. My only record is an adult male taken December 5, 1885” (*Herbert Brown*). I took a female, a bird of the year, on the San Pedro, January 27, 1886, which is my only record of the species from this region.

18. *Erismatura rubida*. RUDDY DUCK.—Not uncommon at times about Tucson, but generally in immature plumage. Mr. Brown has similar records of its occurrence, but I have not met with it on the San Pedro.

19. *Branta canadensis*. CANADA GOOSE.—I saw a small flock of three in a pond near the San Pedro on January 27, 1886. This is my only record.

20. *Plegadis autumnalis*. GLOSSY IBIS.—Mr. Brown says that this species is not infrequent about the bottom lands of the Santa Cruz, near Tucson, both in the fall and spring. I have never met with it myself, but have seen a skin of this species in Mr. Brown's collection.

21. *Plegadis guarauna*. WHITE-FACED GLOSSY IBIS.—A much more common species than the last, according to my own experience. I have found it common in May, in the vicinity of Tucson, in pairs, and in flocks of from six to fifteen individuals. At such times the birds were tame and unsuspicious.

22. *Tantalus loculator*. WOOD IBIS.—Rather common on the Gila and San Pedro Rivers for most of the year, and particularly so in the later months of the summer.

23. *Botaurus lentiginosus*. AMERICAN BITTERN.—Mr. Brown tells me this bird is rare about Tucson. He has but one specimen in his collection. The only personal record of it is a male taken on the San Pedro River, January 29, 1886.

24. *Ardea herodias*. GREAT BLUE HERON.—A resident species, and rather common. My records are from Riverside, Mineral Creek, and the San Pedro region, and also about Tucson. The Mineral Creek record is perhaps of special interest, as the bird was taken far from water and had evidently been feeding on a species of land lizard. This was in September, 1882. They were abundant on the San Pedro in late January of this year.

25. *Ardea egretta*. AMERICAN EGRET.—Rather common about Tucson in May, which is the only season that I have records of its occurrence, nor have I met with it in other localities.

26. *Ardea candidissima*. SNOWY HERON.—Only noted about Tucson in May, where I saw a flock of five and took one.

27. *Ardea virescens*. GREEN HERON.—“Rather rare about Tucson” (*Herbert Brown*). Also noticed by the same gentleman on the Salt River, near Tempe. I have no other records of its occurrence.

28. *Nycticorax nycticorax nævius*. BLACK-CROWNED NIGHT HERON.—“Rather rare about Tucson” (*Herbert Brown*). I have many records of it on the Santa Cruz in May, 1883.

29. *Rallus virginianus*. VIRGINIA RAIL. I saw a Rail on the San

Pedro on January 28, 1886, which I was unable to procure, but feel very positive as to its identity as above.*

30. [*Porzana carolina*. CAROLINA RAIL.—Mr. Herbert Brown has kindly sent me an example of this species taken by him at Tucson, April 18, 1886.—J. A. A.]

31. *Galinula galeata*. FLORIDA GALLINULE.—“Not uncommon about Tucson” (*Herbert Brown*). I have records of it as being rare on the San Pedro in late January.

32. *Fulica americana*. Common, except during summer, wherever suitable localities present themselves. I have notes of its occurrence about Tucson in late May and early June in pairs. Abundant on the San Pedro in late January, 1886.

33. *Phalaropus tricolor*. WILSON'S PHALAROPE.—Common during the migrations about Tucson. Mr. Brown's experience agrees with the above statement.

34. *Recurvirostra americana*. AMERICAN AVOCET.—“Common at times during the fall migration, near Tucson” (*Herbert Brown*).

35. *Gallinago delicata*. WILSON'S SNIPE.—Common about Tucson during the migrations, and a few spend the winter both at this point and in the San Pedro River region, indicated on the accompanying map.

36. *Tringa minutilla*. LEAST SANDPIPER.—Mr. Brown says this species is common about Tucson during the spring and fall migrations, and I have also met with it at these times.

37. *Tringa alpina pacifica*. RED-BACKED SANDPIPER.—I saw flocks of this species and took representatives, during the latter part of April, 1883, near Tucson.

38. *Ereunetes occidentalis*. WESTERN SANDPIPER.—Spring and fall, but most common in the former season, about Tucson.

39. (?) *Limosa fedoa*. MARBLED GODWIT.—A Godwit noted on January 27, 1886, on the San Pedro River, I can refer only to this species. I was very close to the bird, which was alighted, but unfortunately had no means of procuring it.

40. *Totanus melanoleucus*. GREATER YELLOW-LEGS.—My only record of this species was given me by Mr. Brown, who took two male birds of the year near Tucson on October 29, 1884. These are now in his collection.

41. *Totanus solitarius*. SOLITARY SANDPIPER.—Not uncommon about Tucson during the migrations. This is the mutual experience of Mr. Brown and myself.

42. *Actitis macularia*. SPOTTED SANDPIPER.—Occasional about Tucson in spring.

43. *Numenius longirostris*. LONG-BILLED CURLEW. “Not common during the migrations about Tucson” (*H. Brown*). I have no records in regard to the species.

44. *Ægialitis vocifera*. KILLDEER.—Common about Tucson and on

* [I am indebted to Mr. Herbert Brown for a specimen of this species, an adult male, taken by him at Tucson, April 11, 1886.—J. A. A.]

the San Pedro, in spring and fall, and breeds in small numbers in the San Pedro region.

45. *Ægialitis semipalmata*. SEMIPALMATED PLOVER.—This species is doubtless common in the migrations about Tucson, where my only record was made in April, 1883, when I saw many.

46. *Colinus ridgwayi*. MASKED BOB-WHITE.—My personal experience with the 'Bob-white' of Arizona is limited to having seen and carefully examined all the material that Mr. Herbert Brown has acquired, which, I believe, with the exception of the type of the male bird taken by Mr. F. Stephens in Sonora, and described by Mr. Brewster, embraces *all* of the known specimens of the species now in collections.

Perhaps it may as well be said in this connection, though I believe it is already recorded, that previous to Mr. Stephens's Sonora trip, Mr. Brown had become aware that there was a 'Bob-white' in Arizona, and that he showed me two mummies of the species during the spring preceding Mr. Stephens's Sonora trip. And finally all of the United States records of the species, so far as I am aware, are due to the careful study and work of Mr. Brown. Up to the early part of the present year this record only embraced five individuals, but during the early spring past, Mr. Brown procured not only a considerable series of male birds, that must in certain features modify the original description from the single bird obtained by Mr. Stephens, but also a series of the female bird, which was up to that time unknown, save from a somewhat imperfect bird that had not been dissected. These birds have all been forwarded to Mr. Allen for more complete description than we have had up to the present time. For a description, so far as known, of the habits of the species I refer to Mr. Brown's paper published in 'Forest and Stream' (Vol. XXV, p. 445, December 31, 1885).*

47. *Callipepla squamata*. SCALED PARTRIDGE.—This Quail is almost as abundant on the dry mesas of the San Pedro slope of the Santa Catalina Mountains, up to an altitude of 3500 feet, as its congener *C. gambeli*. It affects a more open country, however, though I have often seen flocks of Quails where the two species were represented in about equal proportions. In other localities as, for instance, near the Cottonwood Spring, indicated on the map, it is very abundant in larger flocks, almost to the exclusion of *C. gambeli*. The little valley to the west of the Santa Catalina range, where the road passes down from Old Camp Grant to Tucson, is inhabited by both species in great abundance, and here, too, I have seen flocks composed of the two associating apparently on the most friendly terms. About Riverside the birds were very rare, nor did I find them at Mineral Creek, but just about Florence they are common, and near Tucson they are frequently to be met with. South of Tucson, in the neighborhood of Quijotoa and on the plains about Barboquivari, Mr. Brown says the species is particularly abundant.

* [I have in press a special paper on this species, illustrated with colored figures of both male and female. It will appear in the 'Bulletin' of the American Museum of Natural History, Vol. I, No. 7, article XVI. A brief reference to Mr. Brown's specimens may be found in the last number of, The Auk' (Vol. III, p. 275).—J. A. A.]

The birds remain in flocks in the region of the Catalina Mountains, where I live, till as late as the middle of April, when they gradually break up into pairs to assume their family duties.

The only nest I have found was at an altitude of about 3500 feet. This was on the 20th of May, 1885. There was little attempt at a nest, but simply a slight depression in the sand, lined with a few coarse grasses under a small cat-claw bush. There were eleven nearly fresh eggs that so closely resemble those described by Dr. Coues (see Birds of the Northwest, p. 443) that further description is unnecessary. It may be well in this connection to call attention to the extreme thickness of the shells of the eggs.

I have taken birds of the year in the same locality that had not yet completed the moult from the nest plumage as late as the middle of October, so that probably several broods are raised.

The birds, whether in flocks or singly, are shy and difficult to approach, and it is no easy matter to overtake a flock when they are alarmed and begin to run as a method of escape, instead of flying. The call-note of the birds after being scattered reminds one in a way of the note of the Guinea Fowl, only that it is not so loud nor continuous.

[Mr. Scott's collection includes a series of 41 specimens, collected chiefly in March and November. The sexes are about equally represented, and show no sexual difference in plumage, the lightest and the darkest birds being respectively just as often males as females. The fall specimens have a little stronger tinge of buff below and are a little darker generally than those taken in the spring. Mr. Sennett's series of 80 specimens of *C. squamata castanogastris*, taken in Southern Texas (Lower Rio Grande), average much darker, and are further distinguished by the abdominal chestnut patch, which forms the chief diagnostic feature of this form. The darker Arizona specimens, however, can not in some instances, be distinguished from some of the Texas specimens. In other words, were the labels removed, it would be impossible to give their origin, or to refer them to one race rather than to the other. Yet the Texas series compared side by side as a whole with the Arizona series contrasts strongly with the latter, through the deeper tone of all the colors, regardless of the distinctive abdominal patch and stronger rufous suffusion below.—J. A. A.]

48. *Callipepla gambeli*. GAMBEL'S PARTRIDGE.—Gambel's Quail is so commonly distributed throughout the entire region here considered, below an altitude of 5000 feet, that a few words as to breeding time and certain seasonal movements will suffice. In the winter months it rarely ranges above 4000 feet in the Catalina region, but during the warmer portion of the year many pairs range as high as 5000 feet, though the point in altitude where it is most abundant at all times is fully 1500 feet lower. It is common, too, in the immediate vicinity of streams, a point where I have never met with *C. squamata*. By the middle of April, on the San Pedro slope of the Catalina mountains, most of the birds are paired, and breeding has fairly begun, though I have data of flocks seen as late as April 13. About Tucson the breeding season

begins from three weeks to a month earlier. I have taken birds late in October that still were moulting from the nest plumage.

49. *Cyrtonyx montezumæ*. MASSENA PARTRIDGE.—This partridge I found rather commonly in the evergreen oak region of the Pinal Mountains, near the head of Mineral Creek. Also in about the same abundance and in the same localities on the San Pedro slope of the Catalina Mountains, ranging up as high as 5700 feet, and as low as 4000 feet throughout the year. It is generally to be met with in small coveys of from six to a dozen birds, and seems to affect points where the coarser bunch grass is most luxuriant. I have not found it breeding, but have taken young about two-thirds grown and still in the nest plumage early in October, in the Catalina Mountains.

Mr. Brown tells me that it is a common species in the oak region of the Santa Rita Mountains, and is generally to be met with in the same region on the mountains southward to the Mexican border.

50. *Meleagris gallopavo mexicana*. MEXICAN TURKEY.—The only records of this species that I have are from the San Pedro River, and the oak and pine region of the Catalina Mountains. The bird seems, from what I can learn, to have already greatly decreased in numbers in most localities, and to have become exterminated in others where it was formerly abundant. In the pine woods of the Catalinas at the highest altitudes it was very common late in November, 1885, though snow covered the ground.

(To be continued.)

ADDITIONAL NOTES ON PEALE'S PETREL (*ÆSTRELATA GULARIS*).

BY WILLIAM BREWSTER.

In his description* of the new Alaskan Petrel, *Æstrelata fisheri*, Mr. Ridgway intimates that perhaps I was mistaken in referring an *Æstrelata* taken in Western New York† to *Æ. gularis*, adding that it "seems, judging from the description, to belong rather to *Æ. fisheri*." Through the courtesy of the National Museum the type of *Æ. gularis* has been permitted to make a second journey to Cambridge, this time in company with the type of *Æ. fisheri*; thus these three interesting birds are at length brought together.

* Proc. U. S. Nat. Mus., Vol. V, 1883, pp. 656-658.

† Bull. N. O. C., Vol. IV, April, 1881, pp. 91-97.